

REMARKS

Claims 1-21 are pending in the above-identified application. Claims 12-14 and 16-21 were previously withdrawn from consideration. Claims 2 and 3 are herein canceled. Claims 1, 4 and 5 are herein amended. No new matter has been entered. It is respectfully submitted that this Amendment is fully responsive to the Office Action dated March 10, 2006.

Claim Rejections - 35 U.S.C. §102/§103

Claims 1, 2, and 7-11 were rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over *Sekiguchi* (US Pat. No. 2002/0024142).

Applicants respectfully disagree with the Examiner's reasons for rejecting these claims. However, to expedite prosecution and clarify the subject matter of the present invention, Applicants hereby cancel claims 2 and 3 and amend claim 1 to incorporate the features of claim 3 and to recite that the insulating film is kept in a vacuum state without being exposed to the atmosphere during the period from the irradiation of plasma until the formation of the self-orientation layer.

Applicants appreciate the Examiner's acknowledgement that claim 5 would be allowable if rewritten in independent form to include all of the limitations of the base claim. Accordingly, to expedite prosecution, Applicants hereby amend claim 5 to include the limitations of claim 1.

In view of these amendments and the following remarks, Applicants respectfully submit that claims 1, 4-5, and 7-11 are in condition for allowance.

The amended independent claim 1 distinguishes the claimed invention over *Sekiguchi*. For example, as can be understood from FIGS. 5-7 and the relevant description, the claimed "manufacturing method of a semiconductor device" is intended to solve a problem occurring in the case where the insulating film is left in the atmosphere after irradiation of NH₃ plasma thereonto, *i.e.*, a problem in that, where the plasma-treated insulating film is exposed to the atmosphere, H₂O molecules existing in the atmosphere adhere to the surface of the insulating film and thus the orientation intensity of the self-orientation layer is deteriorated. Such a problem is not referred to in *Sekiguchi* or any of the cited references.

To solve the above problem, for example, the claimed method is characterized by: (i) forming the self-orientation layer immediately after the plasma treatment (keeping the plasma-treated insulating film in a vacuum state without exposing to the atmosphere; or (ii) exposing the plasma-treated insulating film to the atmosphere and subsequently coating alcohol on the surface of the insulating film to thereby remove moisture existing on the surface. The feature (i), for example, corresponds to the invention described in the amended independent claim 1, and the feature (ii), for example, corresponds to the invention described in the amended independent claim 5. Whereas, these features and the effects obtained thereby (improvement in the orientation characteristics) are not disclosed or even suggested in any of the cited references.

Accordingly, Applicants respectfully request that the Examiner withdraw the anticipation/obvious rejection of claims 1 and 5.

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Amendment under 37 C.F.R. §1.111
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Also, claims 7-11 should be allowable in view of the remarks above because these claims depend from independent claims 1.

Claim Rejections - 35 U.S.C. §103

Claims 3 and 4 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Sekiguchi* in view of *Abe* (US 2002/0013057). Claim 3 is canceled and claim 4 depends from independent claim 1 and is likewise allowable by nature of dependency in view of the remarks above. Accordingly, Applicants respectfully request that the Examiner withdraw the obviousness rejection of claims 3 and 4.

Allowable Subject Matter

As discussed above, Applicants appreciate the Examiner's acknowledgement that claims 5 and 15 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants respectfully submit that claim 5 has been amended to include the limitations of claim 1 and that, in view of the above remarks, claim 15 is allowable by nature of dependency to claim 1.

In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date.

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If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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